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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,567	04/03/2006	Peter Joseph Unsworth	BKB-004US	5511
959 7590 03/21/2008 LAHIVE & COCKFIELD, LLP ONE POST OFFICE SQUARE BOSTON, MA 02109-2127				
EXAMINER				
TSAL CAROL S W				
ART UNIT		PAPER NUMBER		
2857				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/516,567

Applicant(s)

UNSWORTH ET AL.

Examiner

CAROL S. TSAI

Art Unit

2857

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/21/2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-23 and 25-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-23 and 25-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 18, 25, 26, and 27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claim 25, the body of the claim does not appear to support the preamble. The preamble says it is a method of “calibrating a vortex flowmeter to enable a sensor of the flowmeter to provide a signal for which either a presence of a two phase fluid flow may be detected, or from which a flow rate of at least one phase of the two phase fluid flow may be determined”, but the vortex flowmeter to enable a sensor of the flowmeter to provide a signal for which either a presence of a two phase fluid flow may be detected, or from which a flow rate of at least one phase of the two phase fluid flow may be determined is never calibrated. This leads to a problem under 101, in that the method does not produce a tangible result.

In claim 26, the body of the claim does not appear to support the preamble. The preamble says it is a method of “detecting two-phase fluid flow in a closed conduit which has a vortex flowmeter through which a two-phase fluid flows”, but two-phase fluid flow in a closed conduit which has a vortex flowmeter through which a two-phase fluid flows is never detected. This leads to a problem under 101, in that the method does not produce a tangible result.

In claim 27, the body of the claim does not appear to support the preamble. The preamble says it is a method of “monitoring a multiple phase fluid flow in a closed conduit including a disposition of a vortex flowmeter through which a fluid to be monitored flows which generates a signal indicative of a vortex shedding frequency associated with the fluid flow”, the multiple phase fluid flow in a closed conduit including a disposition of a vortex flowmeter through which a fluid to be monitored flows which generates a signal indicative of a vortex shedding frequency associated with the fluid flow is never monitored. This leads to a problem under 101, in that the method does not produce a tangible result.

A process is statutory if it requires physical acts to be performed outside the computer independent of and following the steps to be performed by a programmed computer, where those acts involve the manipulation of tangible physical objects and result in the object having a different physical attribute or structure. A claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. See AT &T, 172 F.3d at 1358, 50 USPQ2d at 1452. The claimed invention is directed to non-statutory subject matter because the method does not transform an article or physical object to a different state or thing (NOTE: transformation of data is not “physical transformation,” nor are physical acts necessarily a “physical transformation.”) and does not produce a concrete, tangible and useful result.

With respect to claim 18, the result is “using both the shedding frequency value and the amplitude-related value to determine the flow rate of the at least one fluid phase, said amplitude related value being used, at a particular shedding frequency, to assist in the determination of the

flow rate of the at least one fluid phase” which is not tangible and not useful because this result of **“said amplitude related value being used, at a particular shedding frequency, to assist in the determination of the flow rate of the at least one fluid phase”** is not being conveyed to someone or something for making its usefulness immediately apparent to those familiar with the technological field of the invention. Brenner v. Manson, 383 U.S. 519, 148 USPQ 689 (1966); In re Ziegler, 992 F.2d 1197, 26 USPQ2d 1600 (Fed. Cir. 1993). The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application because claims that do not result in physical transformation cover mental processes and therefore attempt to patent human intelligence in of itself are nonstatutory. In other words, although the claim appears to fall into a statutory category (process), they are not truly process claims because it does not manipulate subject matter of difference statutory category.

With respect to claim 25, the result is “determining, and recording, for the flowmeter, for a range of total volume flow rates, at a range of different amounts of each phase of the fluid, a shedding frequency and associated amplitude of the signal.” which is not tangible and not useful because this result of **“for the flowmeter, for a range of total volume flow rates, at a range of different amounts of each phase of the fluid, a shedding frequency and associated amplitude of the signal is determined, and recorded”** is not being conveyed to someone or something for making its usefulness immediately apparent to those familiar with the technological field of the invention. Brenner v. Manson, 383 U.S. 519, 148 USPQ 689 (1966); In re Ziegler, 992 F.2d 1197, 26 USPQ2d 1600 (Fed. Cir. 1993). The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application because claims that do not result in physical transformation cover mental processes and therefore

attempt to patent human intelligence in of itself are nonstatutory. In other words, although the claim appears to fall into a statutory category (process), they are not truly process claims because it does not manipulate subject matter of difference statutory category.

With respect to claim 26, the result is “using a significant change in the amplitude value to indicate a change between the fluid having one phase or two phases” which is not tangible and not useful because this result of “**a significant change in the amplitude value to indicate a change between the fluid having one phase or two phases is used**” is not being conveyed to someone or something for making its usefulness immediately apparent to those familiar with the technological field of the invention. Brenner v. Manson, 383 U.S. 519, 148 USPQ 689 (1966); In re Ziegler, 992 F.2d 1197, 26 USPQ2d 1600 (Fed. Cir. 1993). The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application because claims that do not result in physical transformation cover mental processes and therefore attempt to patent human intelligence in of itself are nonstatutory. In other words, although the claim appears to fall into a statutory category (process), they are not truly process claims because it does not manipulate subject matter of difference statutory category.

With respect to claim 27, the result is “analyzing the shedding frequency and signal amplitude components of the signal to determine the at least one characteristic of the fluid flow.” which is not tangible and not useful because this result of “**the shedding frequency and signal amplitude components of the signal to determine the at least one characteristic of the fluid flow is analyzed**” is not being conveyed to someone or something for making its usefulness immediately apparent to those familiar with the technological field of the invention. Brenner v. Manson, 383 U.S. 519, 148 USPQ 689 (1966); In re Ziegler, 992 F.2d 1197, 26 USPQ2d 1600

(Fed. Cir. 1993). The examiner submits that the claimed method merely manipulates an abstract idea without limitation to a practical application because claims that do not result in physical transformation cover mental processes and therefore attempt to patent human intelligence in of itself are nonstatutory. In other words, although the claim appears to fall into a statutory category (process), they are not truly process claims because it does not manipulate subject matter of difference statutory category.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Regarding claim 25, the phrase "may be" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).
5. Claims 25-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 25, the body of the claim does not appear to support the preamble. The preamble says it is a method of "calibrating a vortex flowmeter to enable a sensor of the flowmeter to provide a signal for which either a presence of a two phase fluid flow may be detected, or from which a flow rate of at least one phase of the two phase fluid flow may be determined", but the vortex flowmeter to enable a sensor of the flowmeter to provide a signal for which either a

presence of a two phase fluid flow may be detected, or from which a flow rate of at least one phase of the two phase fluid flow may be determined is never calibrated.

In claim 26, the body of the claim does not appear to support the preamble. The preamble says it is a method of “detecting two-phase fluid flow in a closed conduit which has a vortex flowmeter though which a two-phase fluid flows”, but two-phase fluid flow in a closed conduit which has a vortex flowmeter though which a two-phase fluid flows is never detected.

In claim 27, the body of the claim does not appear to support the preamble. The preamble says it is a method of “monitoring a multiple phase fluid flow in a closed conduit including a disposition of a vortex flowmeter through which a fluid to be monitored flows which generates a signal indicative of a vortex shedding frequency associated with the fluid flow”, the multiple phase fluid flow in a closed conduit including a disposition of a vortex flowmeter through which a fluid to be monitored flows which generates a signal indicative of a vortex shedding frequency associated with the fluid flow is never monitored.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 18-23, 25-28, 30-32, and 34-37 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,121,658 to Lew.

As to claims 18, 19-23, 25-28, 30-32, and 37, Lew discloses a method of monitoring or determining a flow rate of at least one fluid phase of a two or a three phase in a closed conduit having a vortex flowmeter (see col. 1, lines 39-) through which a fluid to be monitored flows, said flowmeter having a sensor adapted to provide a signal from which a shedding frequency may be derived, the method comprising (see Fig. 1 and col. 3, line 47 to col. 4, line 25): obtaining the signal from the sensor and determining the shedding frequency value from the signal related to a frequency at which vortices are shed in the vortex flowmeter, and also determining from the signal a signal amplitude-related value related to an amplitude of the signal at the shedding frequency (see Figs. 5 and 6; col. 2, lines 29-39; col. 3, lines 16-23; and col. 7, lines 19-40); and using both the shedding frequency value and the amplitude-related value to determine the flow rate of the at least one fluid phase, said amplitude related value being used, at a particular shedding frequency, to assist in the determination of the flow rate of the at least one fluid phase (see col. 4, line 64 to col. 6, line 26).

As to claims 34-36, Lew also disclose a liquid being flowing at a constant rate and a gas is introduced at a point, thereby causing an increase in a mean velocity of the fluid flow, the increase in the mean velocity of the fluid flow being itself indicative of a presence of a secondary fluid phase (see col. 5, line 27 to col. 6, line 26).

Response to Arguments

8. Applicant's arguments with respect to claims 18-23 and 25-38 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (571) 272-2224. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 15, 2008
Art Unit 2857

/Carol S Tsai/
Primary Examiner, Art Unit 2857